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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/420,478	10/19/1999	Roy Mathieu	S1022/8263	2856

7590 10/01/2003

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EXAMINER

HA, NATHAN W

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 10/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/420,478

Applicant(s)

MATHIEU, ROY

Examiner

Nathan W. Ha

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's admitted prior art in view of Whitney (WO 95/04374, IDS, previously cited.)

In regard to claims 1 and 4, in figs. 1-3, the Applicant's admitted prior art discloses a high voltage component formed in a region of a silicon substrate 1 of a first conductivity N-type delimited by a wall 2 of the second conductivity P-type, having a lower surface including a first region 6 or 11, in fig. 3, of the second conductivity type connected to the wall 2, and an upper surface including at least a second region 4 of the second conductivity type; further including a third region 10 of the first conductivity type of high doping level formed in the substrate under a portion of the track L. The Applicant's admitted prior art also includes field plate 13 that insulated from the track, however, it does not expressly show the third region being contacted by the field plate 13.

Whitney, in fig. 2, discloses a high voltage component having a field plate 31 extends beyond the third region and being in contact with heavily doped N-type region

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35 in order to prevent such surface charge induced breakdown as taught by Whitney on page 9, lines 25-29.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to connect field plate to the thirst heavily doped region as taught by Whitney in order to prevent such surface charge induced breakdown since field plate would provide a uniform surface potential.

In regard to claim 2, in fig. 2, Whitney further discloses the field plate 36 extends beyond the third region in the wall direction over a distance greater then 10 μm in order to cover the entire junction termination below. Therefore, it would have been obvious to one of ordinary skill in the are at the time of the invention was made to extend the field plate in order to cover the entire junction termination below since field plate isolates the surface charges that accumulate on the passivating layer from distorting the electrical characteristics of the junction termination.

In regard to claim 3, see the Applicant's admitted prior art, page 2, lines 22-24.

Response to Arguments

3. Applicant's arguments filed 6/16/03 have been fully considered but they are not persuasive. Whitney's field plate 36 in fact extends beyond the third region 35 where it becomes 31 and 34.

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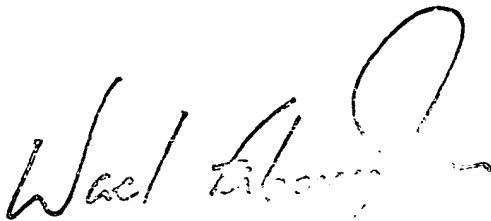
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan W. Ha whose telephone number is (703) 305-3507. The examiner can normally be reached on M-TH 8:00-7:00(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and 308-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Nathan Ha
September 29, 2003


SUPERVISOR
TECHNOLOGY CENTER 2800